

Fig. 1

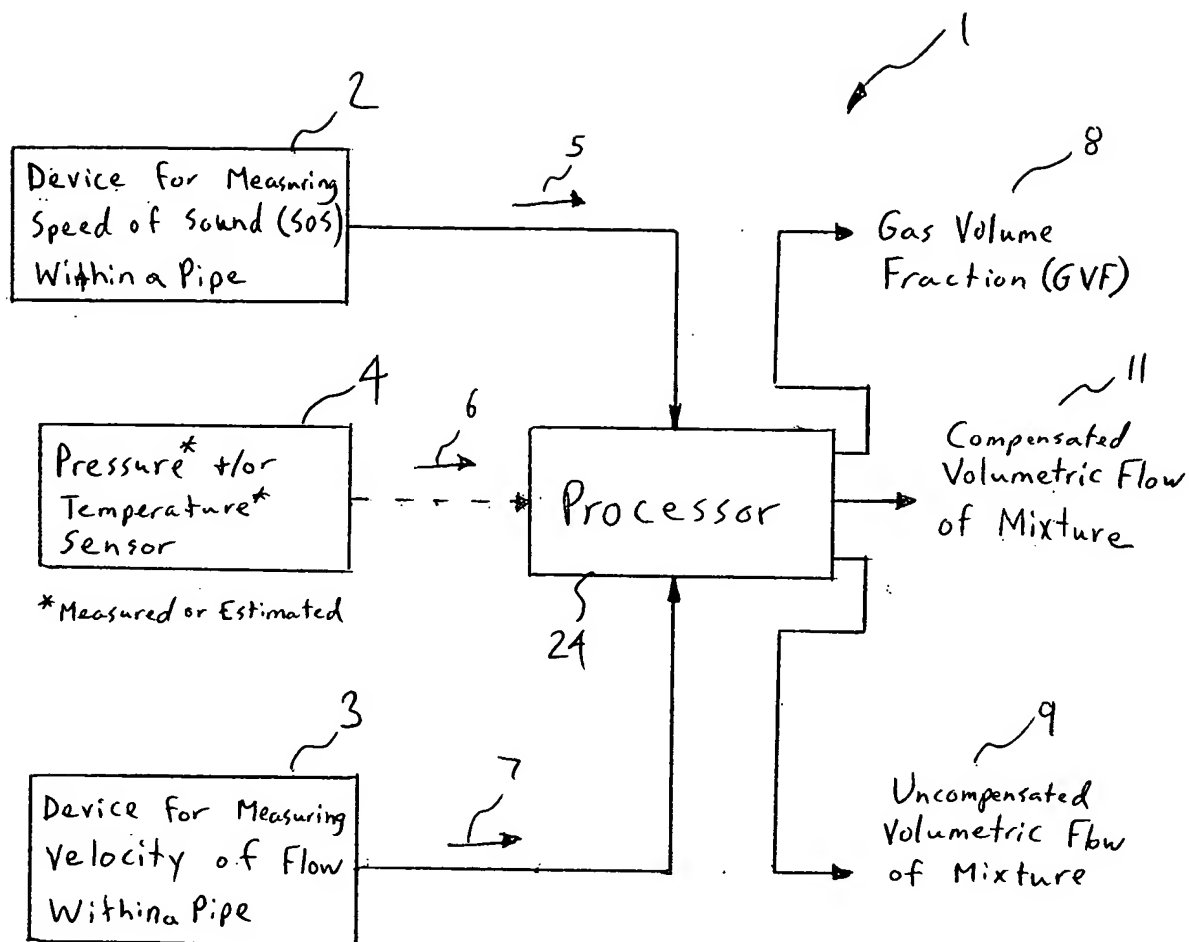


Fig. 2

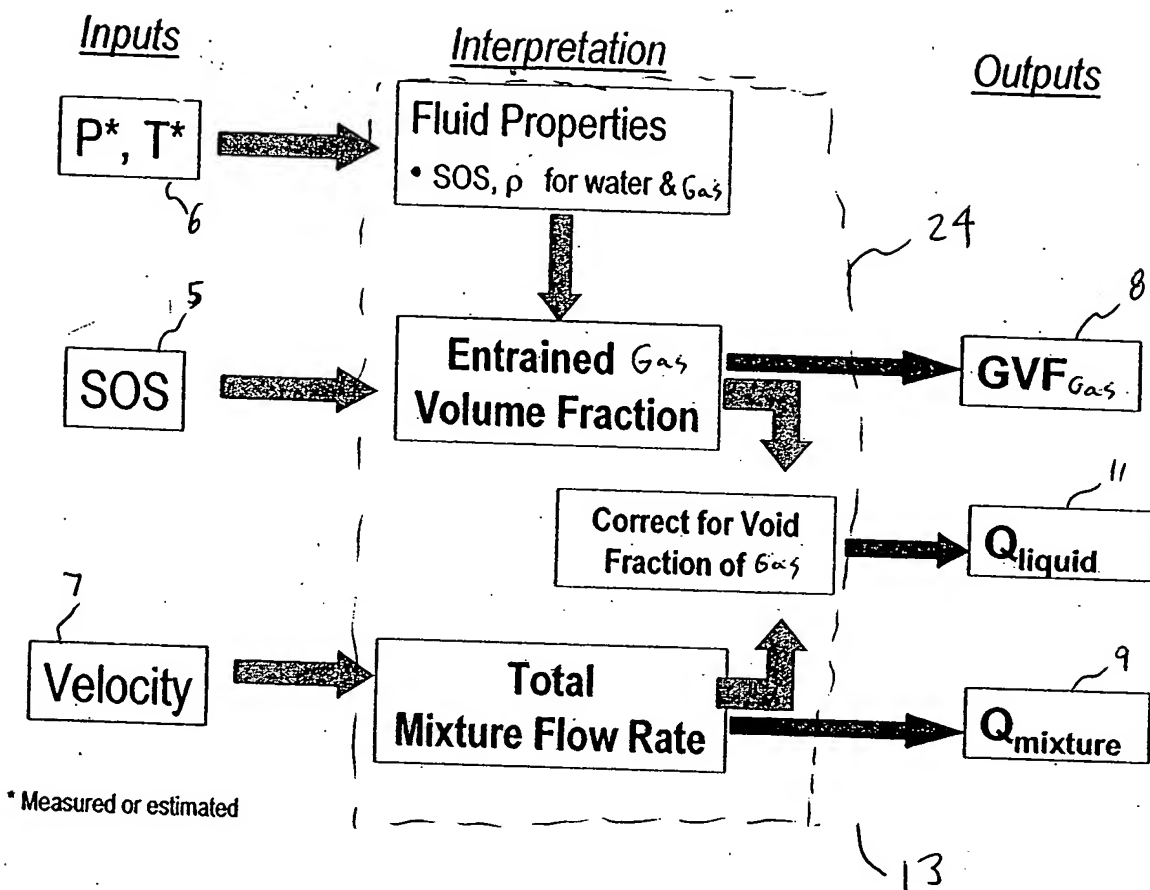


Fig. 3

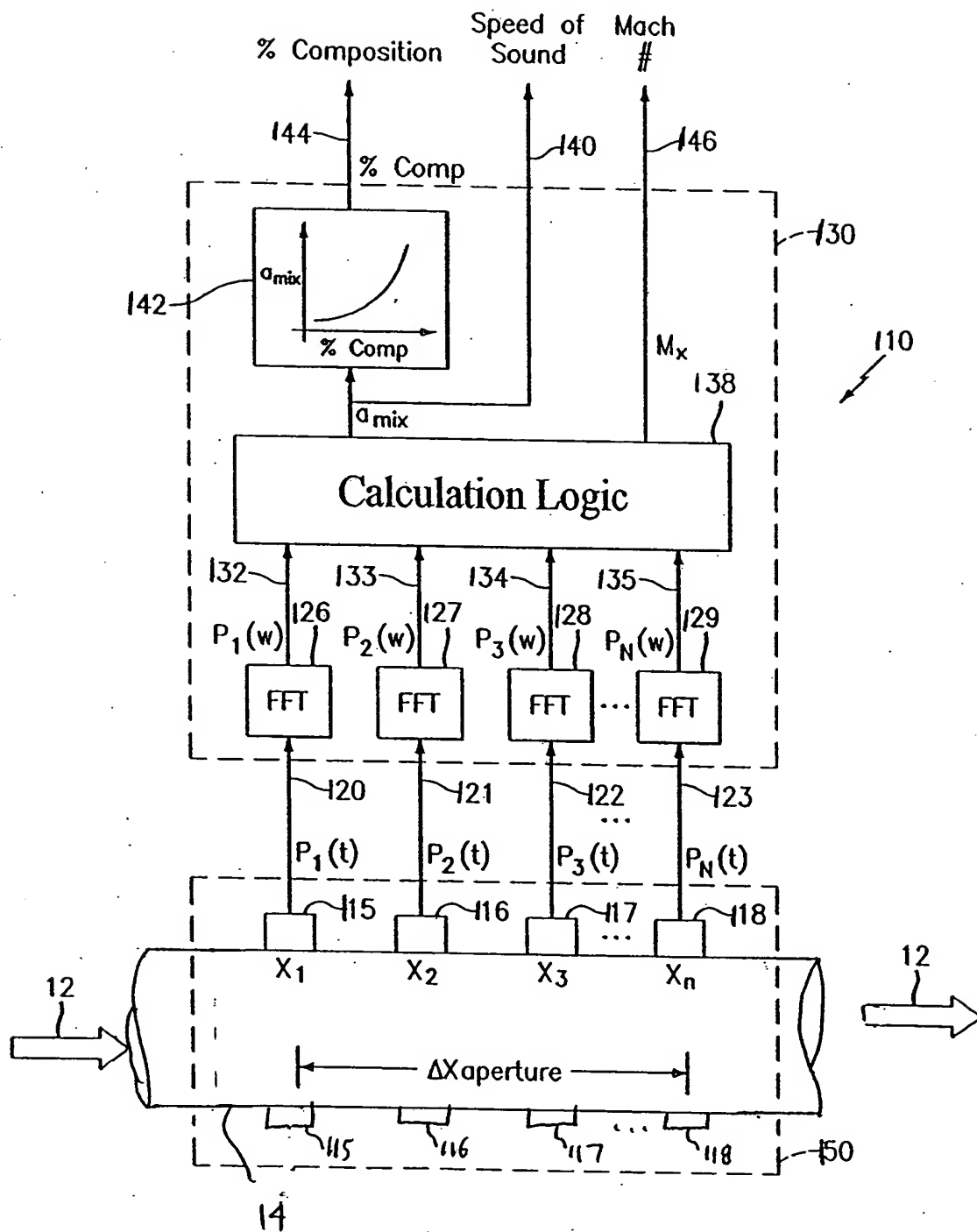


FIG. 4

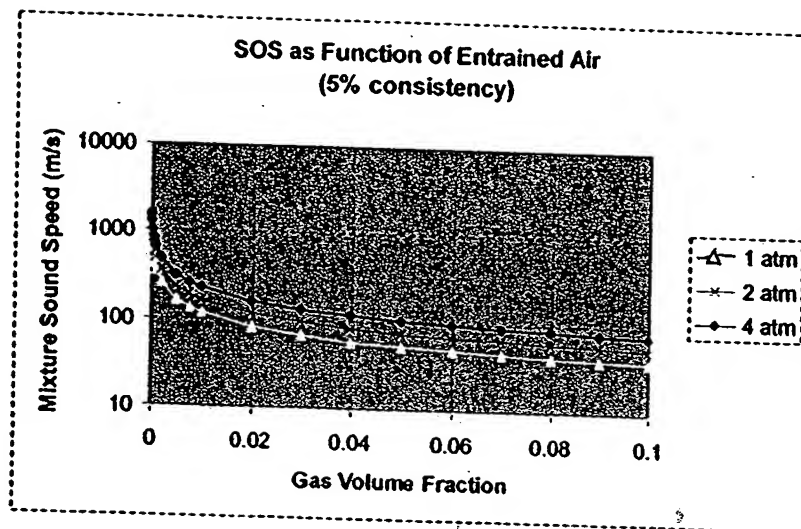


Fig. 5

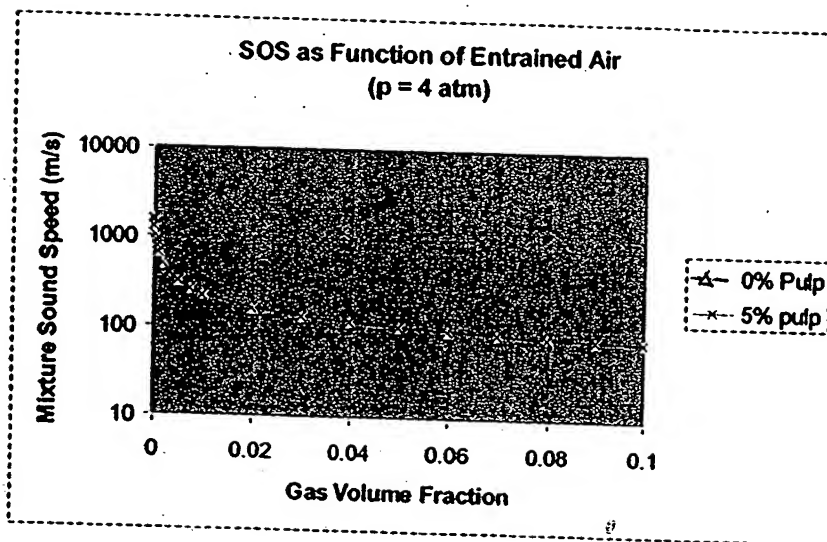


Fig. 6

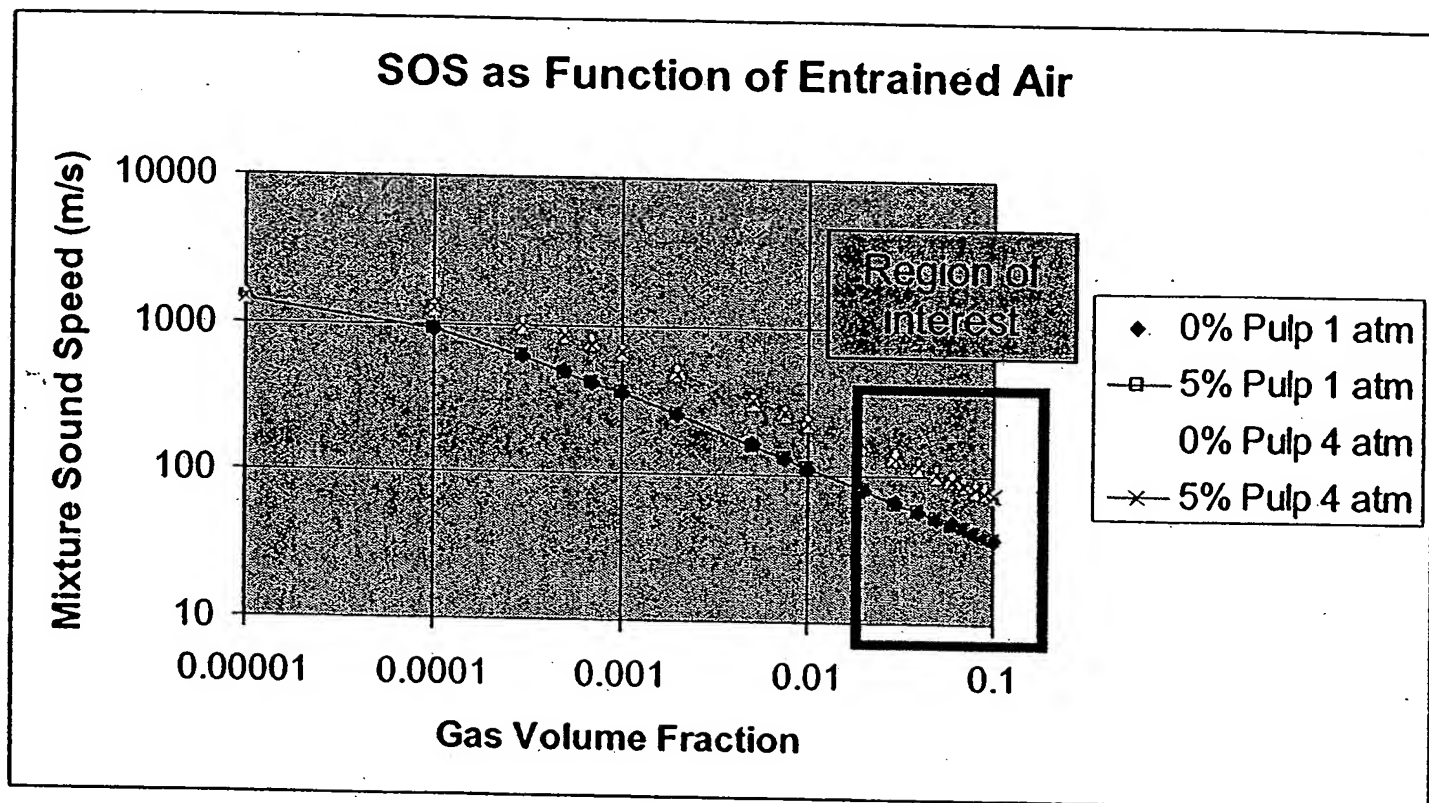


Fig. 7

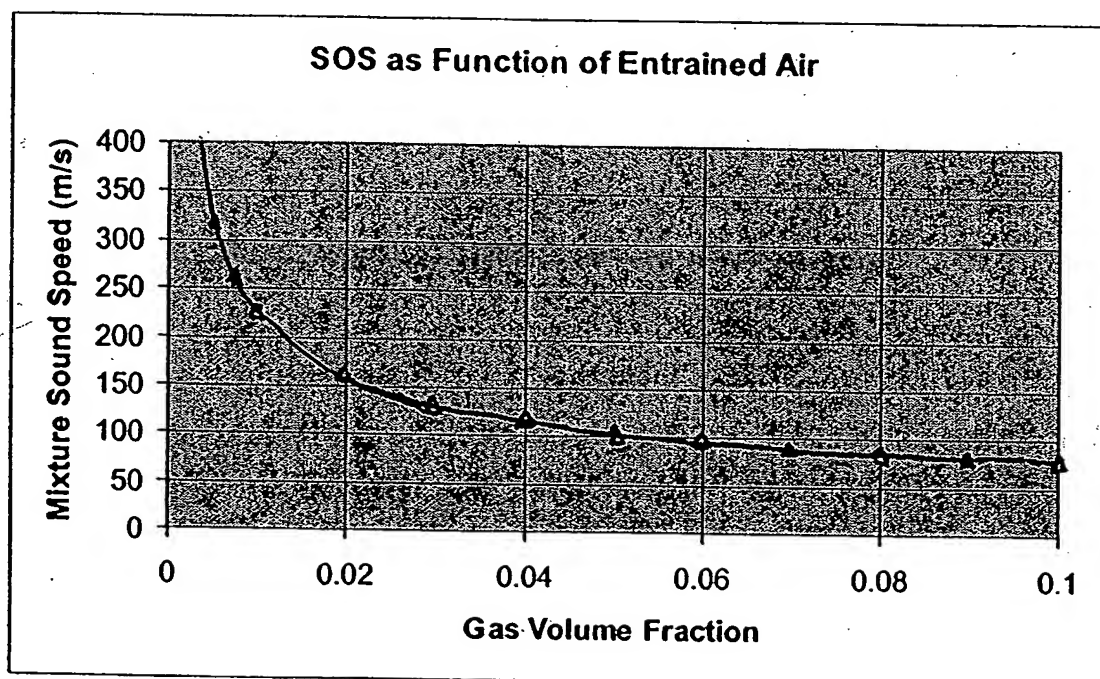


Fig. 8

K- ω plot showing Acoustic Ridges
(in water with entrained air)

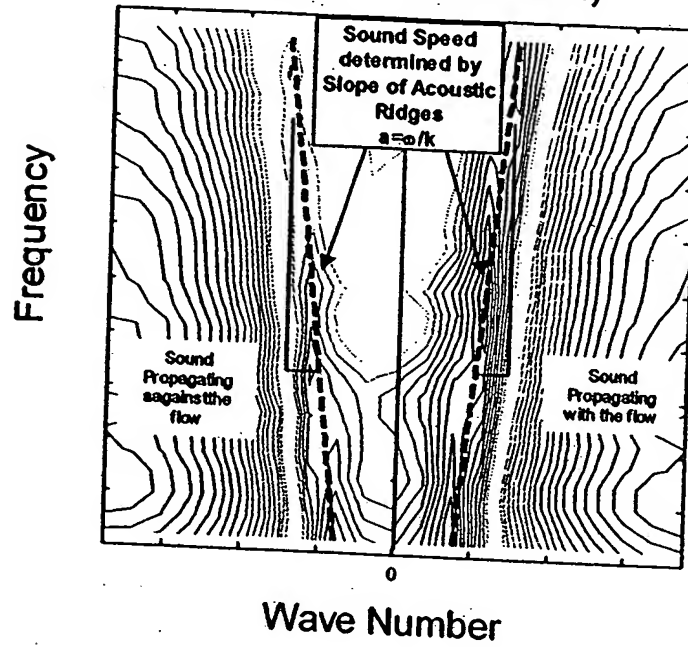


Fig. 9

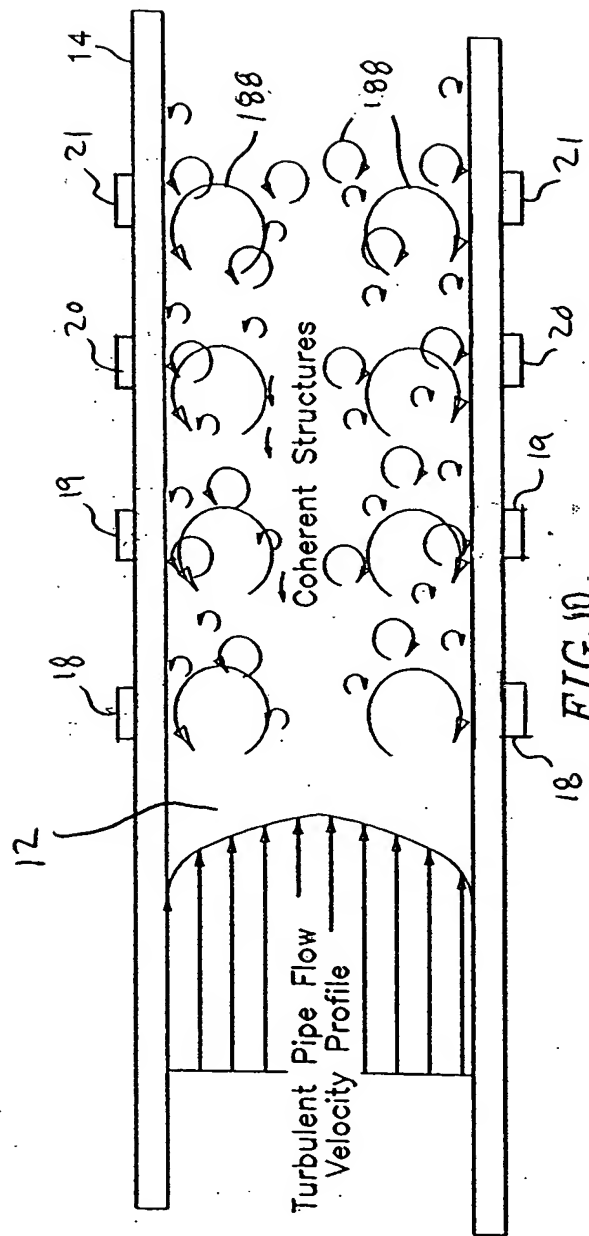


FIG. 10

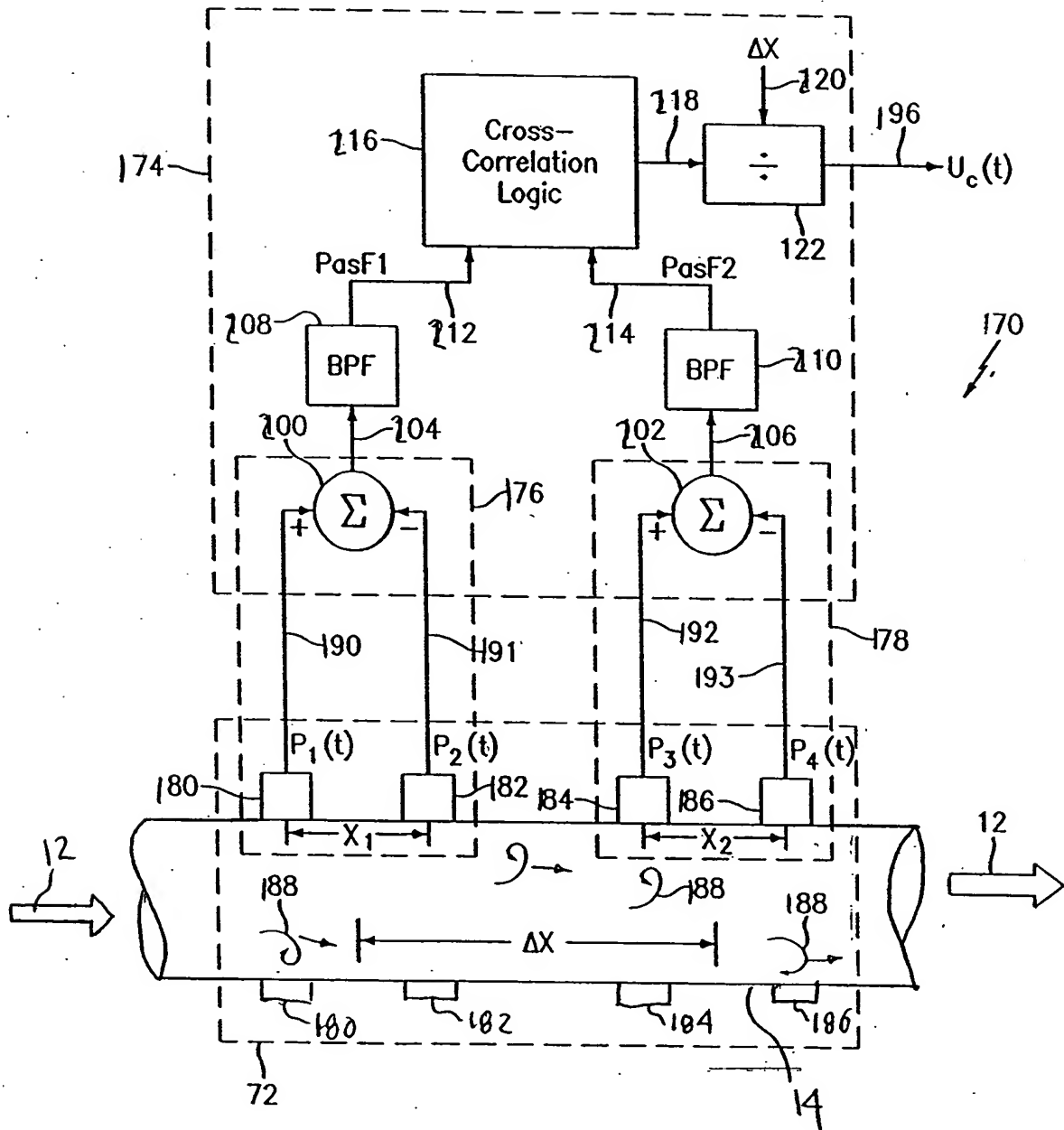
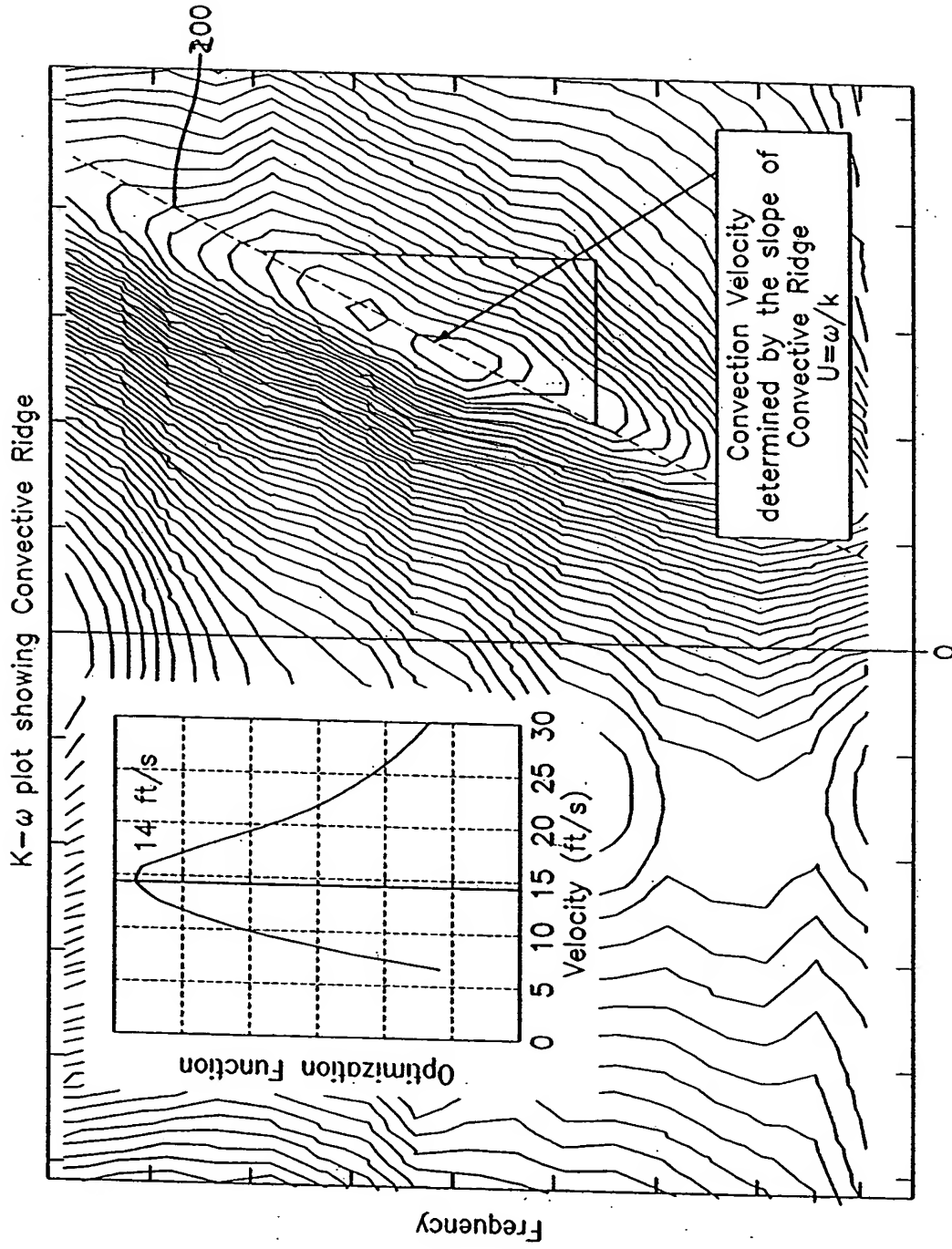


FIG. 11



Wave Number

FIG. 12

300

Outputs

Interpretation

Inputs

P^*, T^*

6

SOS

5

Fluid Properties
• SOS, ρ for water & gas

Entrained Gas
Volume Fraction

GVF_{Gas}

8

Electromagnetic
Volumetric
Flow
Measurement

Total Mixture
Flow Rate

Correct for
entrained Gas

$Q_{mixture}$

Compensated
Volumetric
Flow Rate
Measurement

* Measured or estimated

Fig. 13

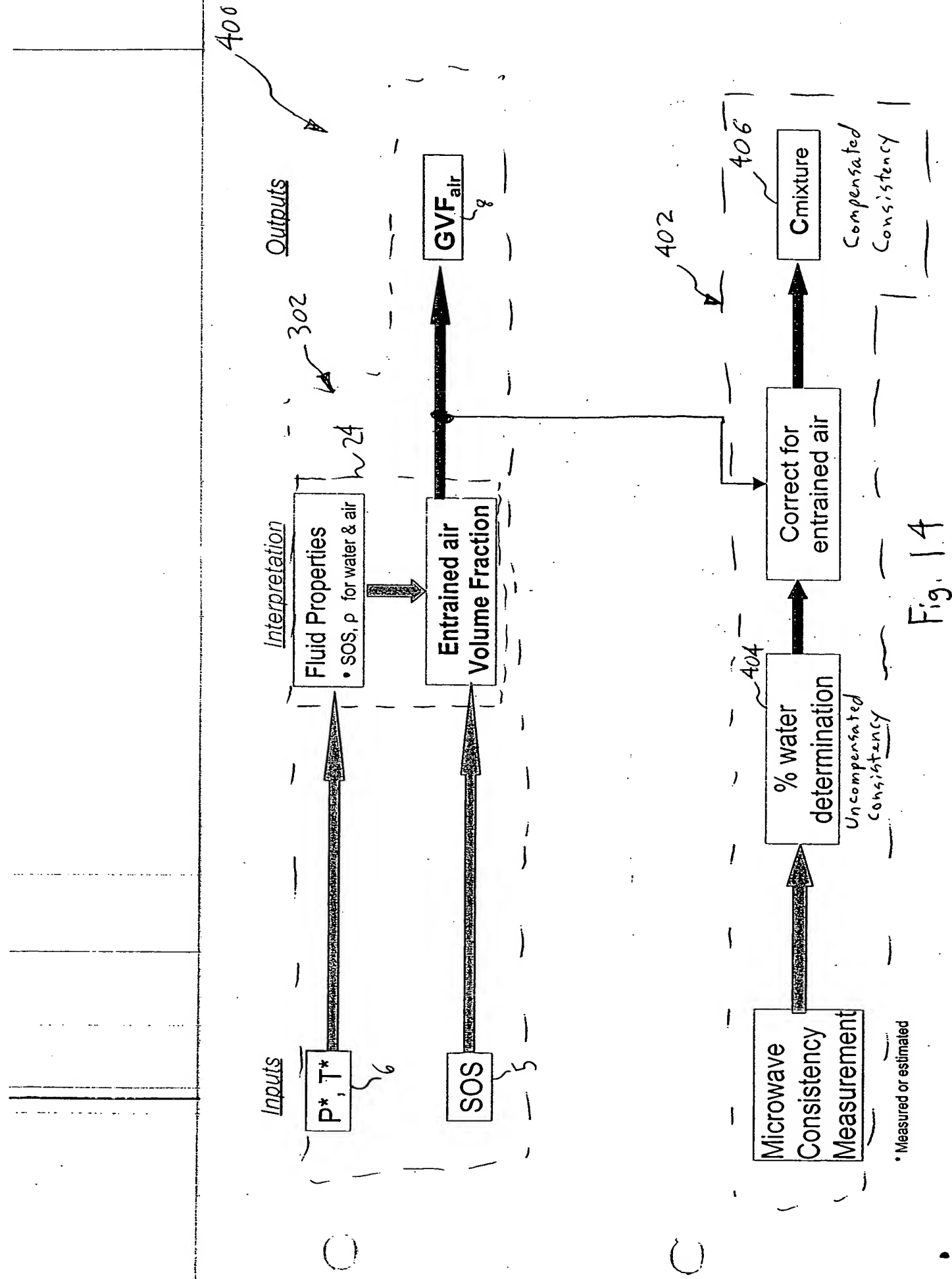
302

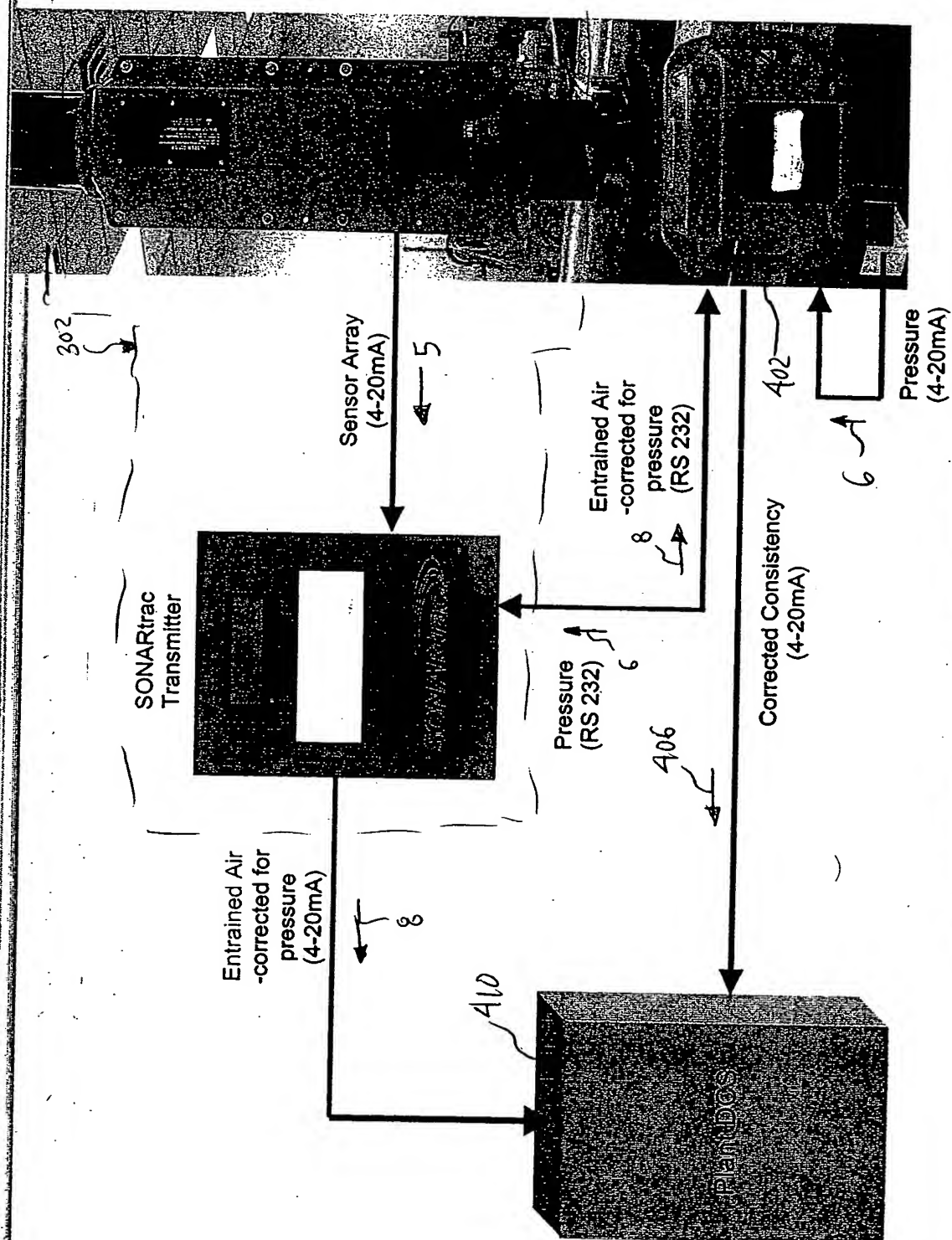
24

304

308

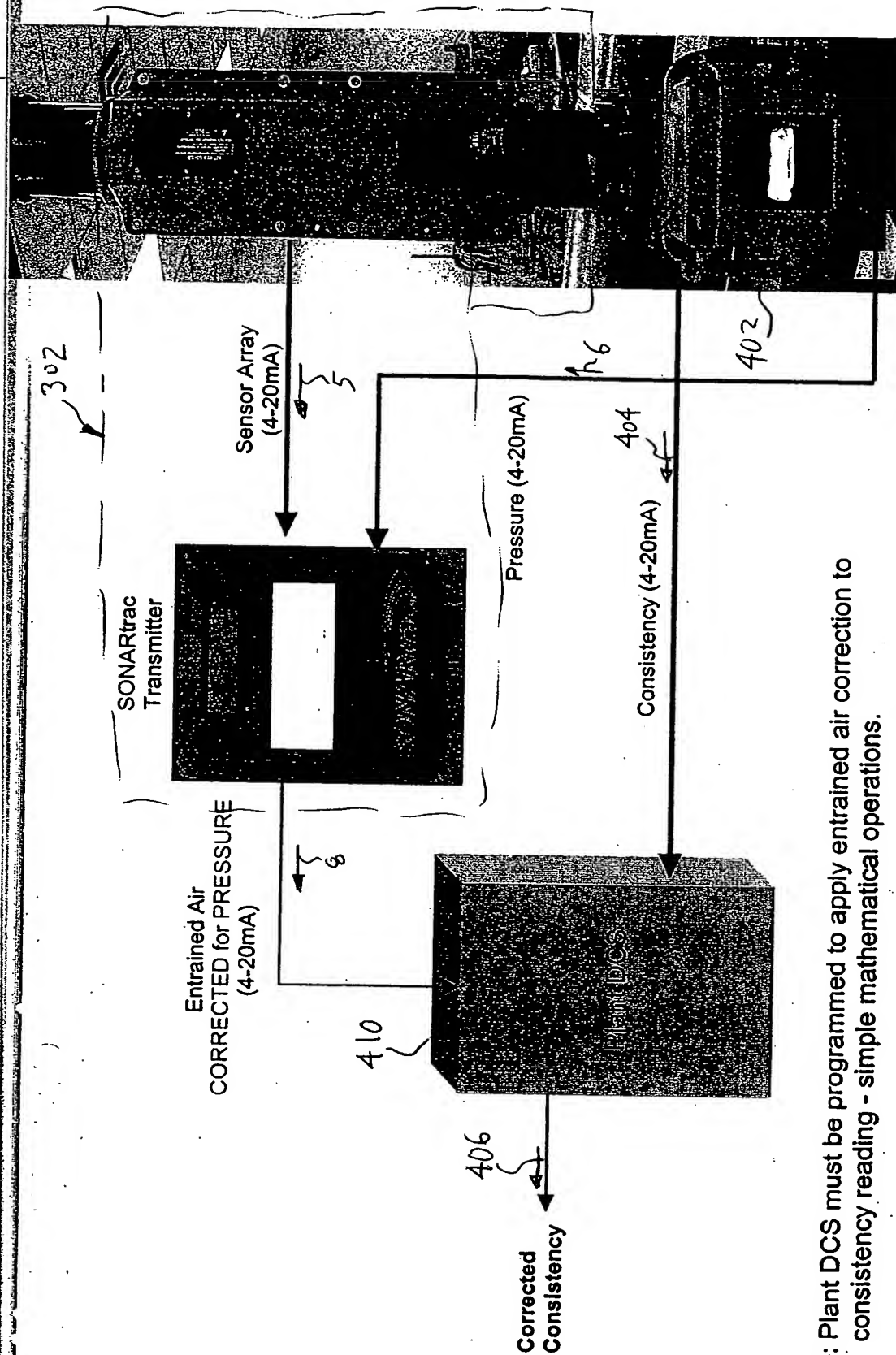
11





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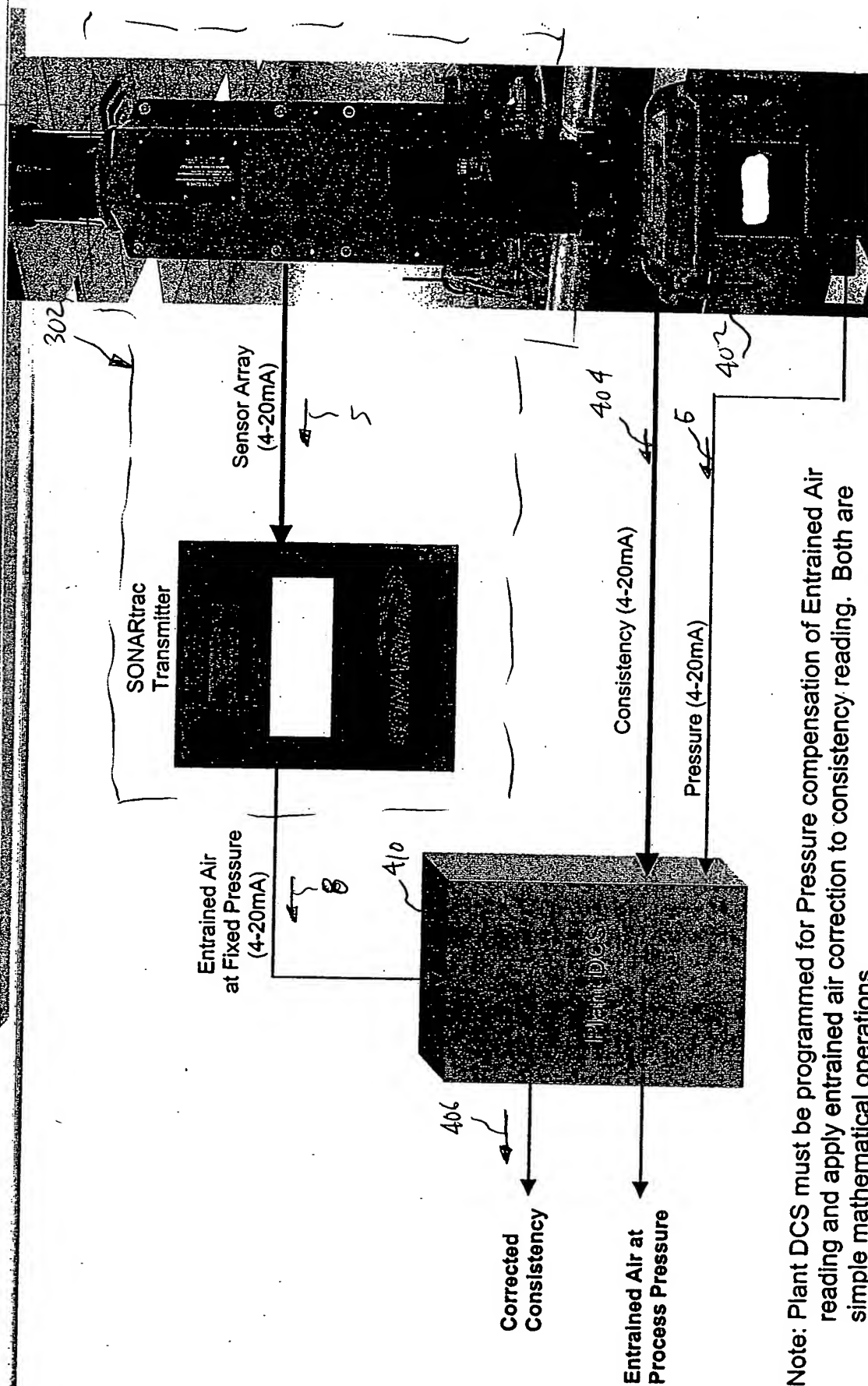
Fig. 15



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Note: Plant DCS must be programmed to apply entrained air correction to consistency reading - simple mathematical operations.

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Note: Plant DCS must be programmed for Pressure compensation of Entrained Air reading and apply entrained air correction to consistency reading. Both are simple mathematical operations.

Fig. 17

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Microwave Consistency Corrected by CIDRA SONARtrac Entrained Air Measurement

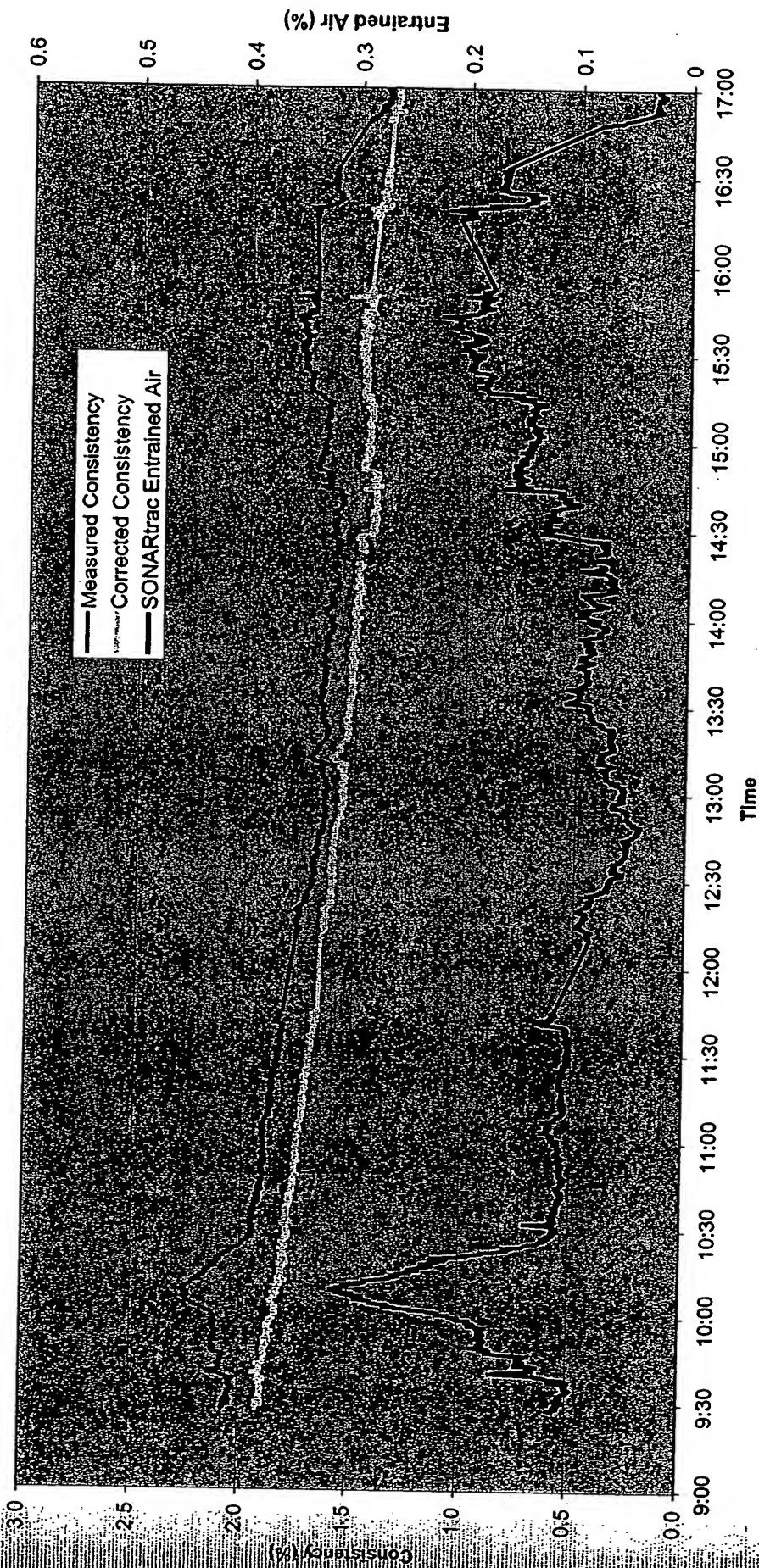


Fig. 18

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Macro Bubble Testing Shows Ability to Correct Microwave Consistency Analyzer

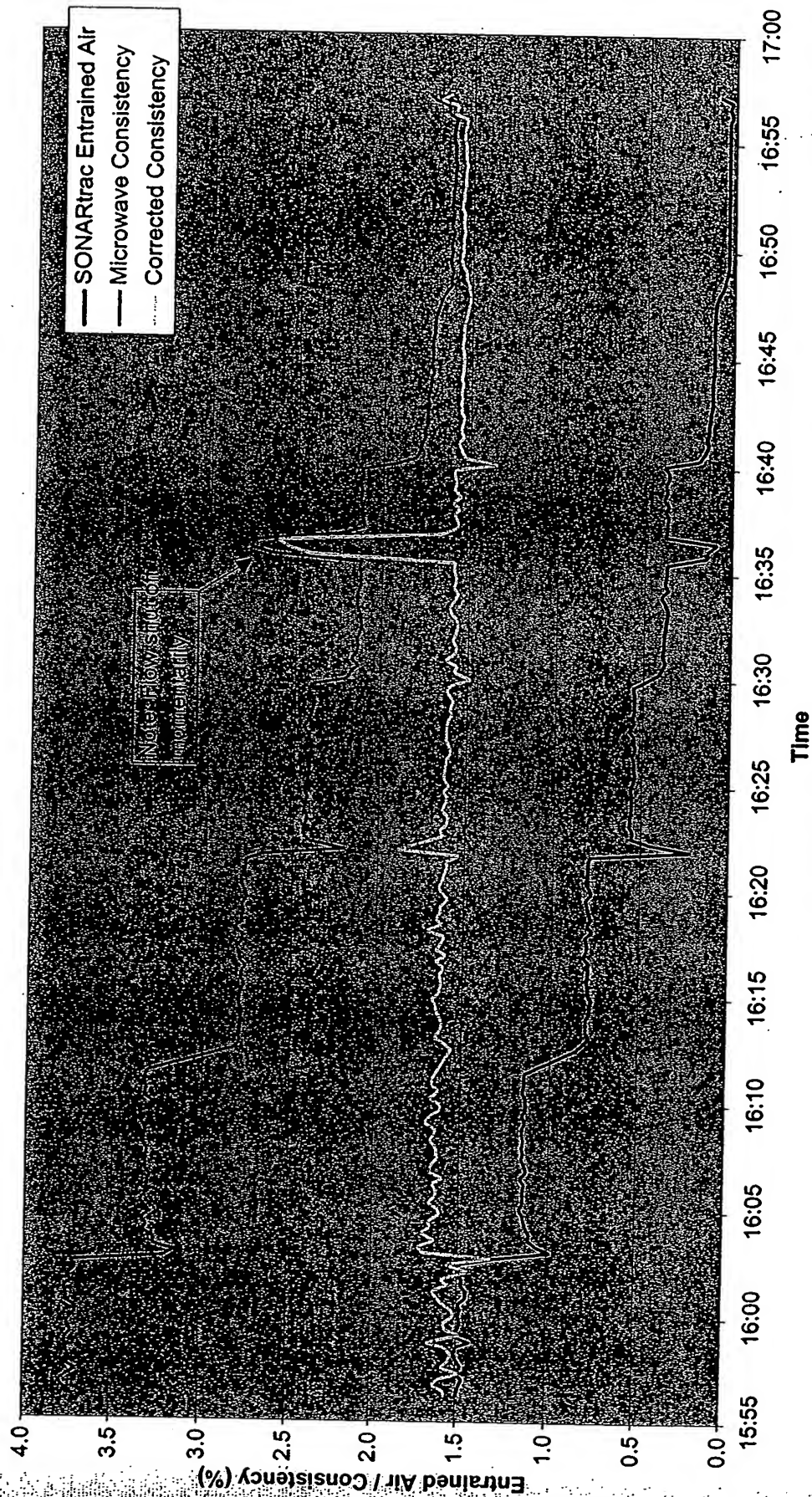


Fig. 19

NOT AVAILABLE COPY

Microwave Consistency Corrected by CIDRA SONARtrac Entrained Air Measurement "Micro" Air Flow Test

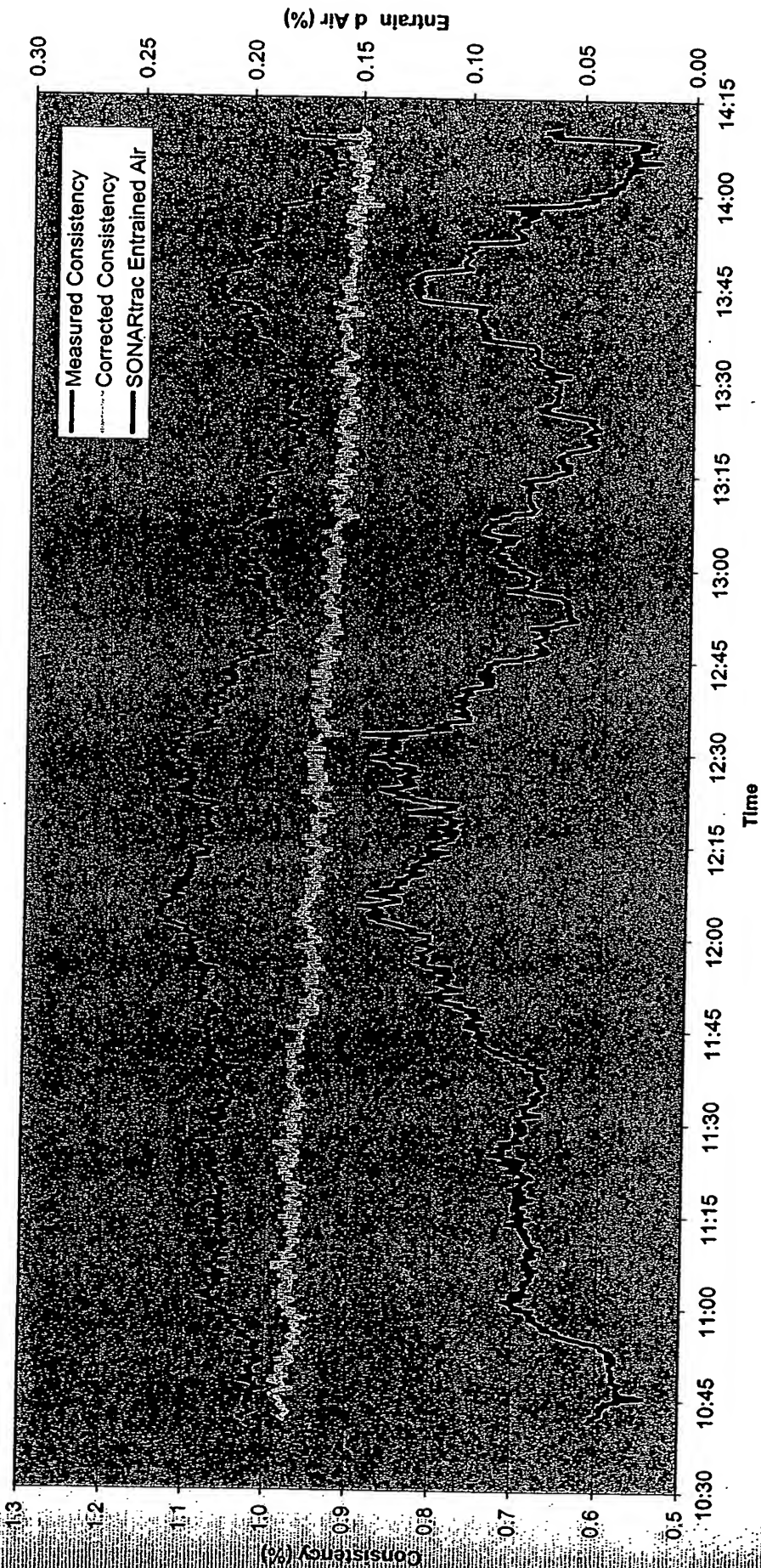


Fig. 20